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Fabric-covered cars: motor engineering and fashion

I am quite certain that the fabric-covered body will upset every paint-pot in the country, and that within a few years a paint-finished car will only be found in a museum.¹

In 1927, such was the resolute prediction of motor engineer and journalist Arthur Percy Bradley.² For a brief period, fabric car finishes solved engineering demands for lightness and rattle-free running. Inventions in Britain, the Continent and in the US played major roles in the rapid rise of fabric-covered cars, but capriciously, it was fashion that controlled their precipitous decline. A fondness for glossy surfaces and curvaceous car bodies meant that within five years of Bradley's prediction, fabric-covered cars had ceased production.

Entering the course

The concept of lightweight fabric-covered frameworks was first exploited in aviation, so it is little surprise that it was aviation engineers who introduced such systems into car body construction. Mark Theobald cites US aviator Glenn H. Curtiss (1878-1930), who manufactured fabric-stretched caravans for pulling behind a car, as a pioneer in the field.³ Another American aviator, Charles Terres Weymann (1889-1976), was to be a more influential innovator. Weymann added joints to the wooden framing, "allowing the normally rigid airframe to flex when the [car] body encountered ditches, bumps and road irregularities".⁴ Based in France, Weymann opened his first factory in Paris in 1921, and licensed the use of his construction system to manufacturers in Britain by 1923. The following year, 'Headlight', a motoring journalist writing in the *Dundee Courier*, judged the Weymann body the most revolutionary development in car bodywork:

In this style of construction there is no metal panelling as is usual on the ordinary type of body. Instead the panels consist only of a wood framework with jointings which are almost flexible, the framework being covered over with a special type of fabric. With this system it is possible to distort the body or the doors by forcibly bending them and then find them return to their original position none the worse for such rough treatment. The Weymann body is also lighter and somewhat cheaper than the usual type, especially for closed cars such as saloons...⁵

¹ Bradley, Arthur Percy "'Motoring in Spring' by Mr. A. Percy Bradley" *The Sphere*, 26 Mar 1927, p.47.

² Arthur Percy Bradley (1887-1952), motor engineer who edited the journal *Cyclecar* (1919-1922), and was Clerk of the Course at Brooklands, 1929-1939. He wrote motoring articles for various journals, including *Autocar*.

³ Theobald, Mark (2013) "Fabric Body Corporation, 1923-1929, Detroit, Michigan" for Coachbuilt.com website. See also: White, Roger B. "Planes, Trailers and Automobiles: The Land Yachts of Glenn Curtiss", *Automobile Quarterly*, 32 (3), Apr 1994. Thanks to David Burgess-Wise for this reference.

⁴ Ibid., Theobald (2013).

⁵ "Progress in the Motor World: New Bodywork Features" by Headlight. *Dundee Courier*, 3 Sep 1924, p.7.

It was largely the growing desire for all-weather closed vehicles, increasing the extent of bodywork, that drove the search for lightweight construction methods. But the benefit of noise reduction, especially in the Weymann body, was another significant attraction of the fabric body. In an article entitled "Silence in Covered Coachwork", the principles of Weymann's system were explained for the layman:

In a rigidly built body wood struts or members, abutting against each other and receiving constant jolts from the chassis, tend to set up squeaks and other unpleasant noises, while panels and door frames develop small cracks in the paintwork, and the constant movement and abrasion of the various body components in course of time set up a collective drumming. It is, however, an essential feature of the Weymann system that the wood parts and other components liable to set up noises are not only insulated from each other, but that the metal or wood panelling used in the conventional body is replaced by a special black or coloured fabric of considerable strength and durability, which, of course, is inherently, silent at all times. The combination of this fabric cloth panelling over a flexible framework results in the production of a closed body which remains silent over even the worst road surfaces and after long periods of hard use.⁶

Gaps of 1/8-inch were left between adjacent wood members, and strips of cloth used to insulate wood surfaces around window frames. The flexible construction allowed the use of lighter framing members, and the body could be bolted directly to the chassis without the need for the complexities of shock absorbers (see Fig. 1).

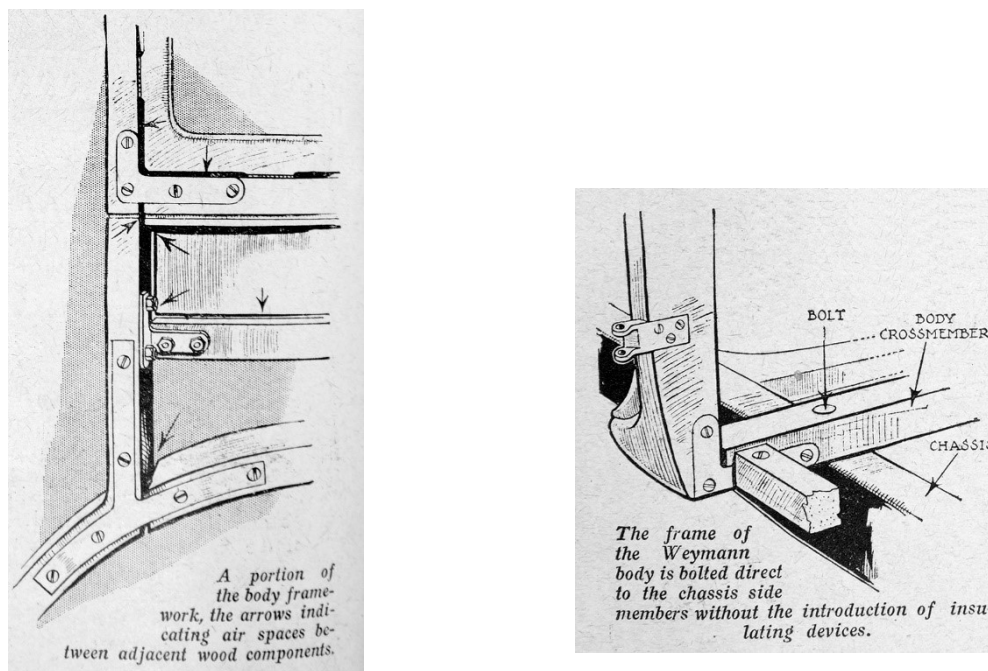


Figure 1. Aspects of Weymann body construction. From *Autocar*, 21 August 1925.

The fabric was stretched like a drum over the wooden frame, the edges tacked in place within a groove that was then concealed by a metal bead making it watertight (See Fig. 2.). A canvas lining

⁶ "Silence in covered coachwork" *Autocar*, 21 Aug 1925, p.321.

layer aided in achieving a smooth finish over sharp corners, and a padding layer could be introduced between the lining and the outer fabric. The fabric possessed a character such that “no matter how much it may be dented or pressed in, it automatically returns to a perfectly flat surface without signs of cracking or damage.”⁷ In appearance, it was claimed, “Except for the slightly less polished finish of the fabric, these bodies are, in fact, almost indistinguishable from the ordinary varnished coachwork...”⁸

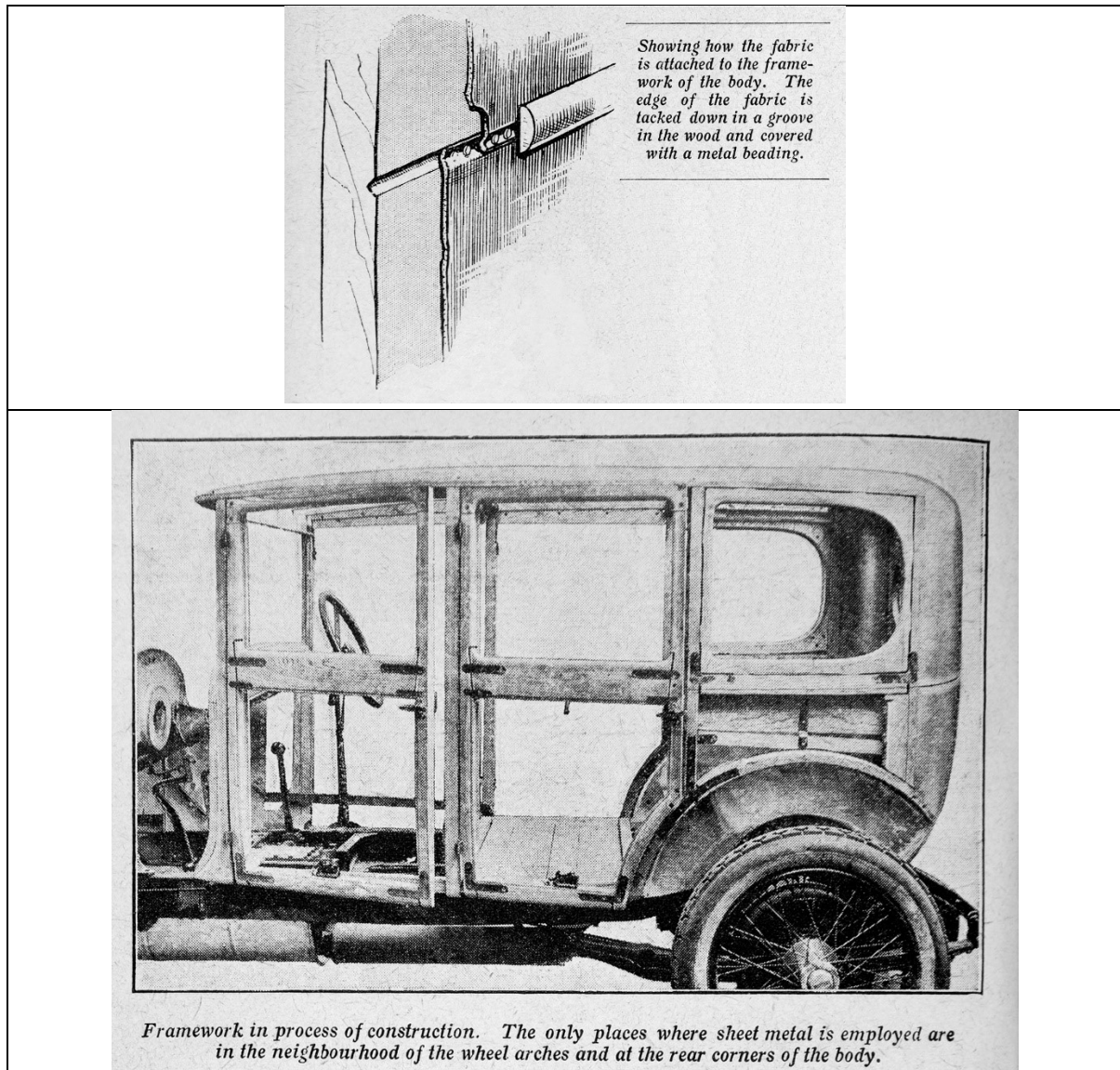


Fig.2. System of framing and fabric covering in the Weymann body. From *Autocar*, 21 August 1925.

Another aviation engineer, Eric Cecil Gordon England (1891-1976), developed a different system for lightweight body construction, based on aircraft design, in which the fabric was laid onto thin plywood panelling over an ash framework. Whereas Weymann fixed his “flexible body rigidly to the chassis”, England’s “rigid fabric-covered body” was attached flexibly to the chassis, generally at three points only.⁹ On average, his fabric-covered body was at least one hundredweight (112 lbs.) lighter

⁷ Ibid., p.322.

⁸ Ibid., p.323.

⁹ “Motor Matters. Problem of the Best Way to Build Saloon Body.” *Birmingham Daily Gazette*, 24 Aug 1927, p.7.

than other types. In 1926, J.W.E. Stanley, writing to the editor of *Autocar*, claimed that his Talbot fitted with a Gordon England fabric-covered saloon body “weighs 1cwt. less than the same chassis fitted with a ‘flexible’ body and 2cwt. less than when fitted with a coachbuilt saloon.”¹⁰ By that time, Gordon England had engineered the shell of his “featherweight saloon” body to be light enough to be lifted by one person, and had nearly reached the limits of possibility in the direction of lightness.

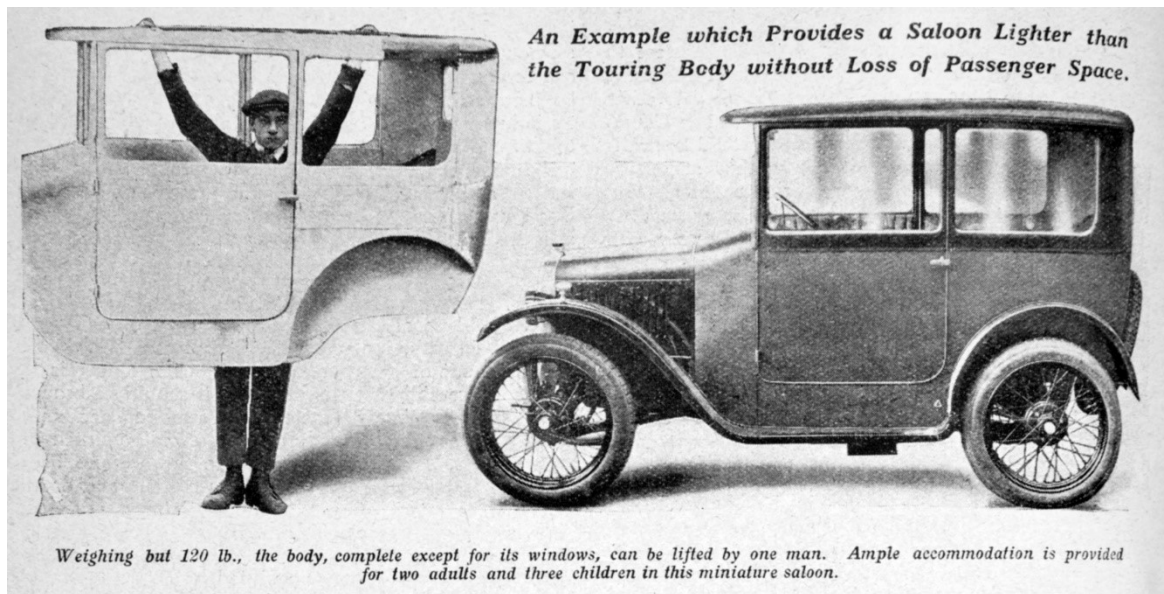


Fig. 3. The Gordon England “featherweight” saloon body. From *Autocar*, 22 Jan 1926

In the coachbuilt vehicle, the body took the load of the occupants, but in Weymann and Gordon England types, their weight was taken directly on the chassis:

the body proper provides nothing more than a lid over them—there is no connection between the body floor and sides, the two being capable of independent movement. [...] In both cases lightness is assisted because the body has neither to resist chassis distortion nor to carry the weight of occupants...”¹¹

Gordon England’s firm continued to make both coachbuilt and fabric-covered bodies, viewing each as satisfying different desires and tastes. The individualised design and beautiful finish of coachbuilt models attracted those who could afford them, while the fabric-covered car appealed to those who valued comfort, meaning by this the relative quiet and nervous comfort.¹²

The other alternative, for those who wanted a prestigious finish at less cost, was the steel body, but the machining set-up for making steel bodies required large-scale for economical production, and was largely confined to American makers. Detroit-based former tailor Kenneth L. Childs (1889-1984) developed a pre-finished leathercloth that could be applied to various panel construction methods, so extending the possibilities for the fabric finish. The problem with applying cloth directly to panels was the different rates of expansion and contraction of the different materials which eventually led to wrinkling. Childs solved this by stretching the cloth over the panels and securing only at the

¹⁰ Stanley, J.W.E. “Lighter cars” *Autocar*, LVII (Aug), 1926, pp. 276-77.

¹¹ “Modern Coachwork” *Country Life*, 64, Iss.1664, 8 Dec 1928, pp. cxxvi & cxxviii.

¹² England, E.C. Gordon “Coach-built v. fabric bodies” *Autocar*, 27 Nov 1925, p. 1068.

edges.¹³ Since aluminium panels were easily dented and steel quite heavy, Childs employed composite materials using a wire mesh under-structure to give strength and flexibility. This could be covered with moulded plywood then leathercloth, or built up with cotton wadding then three layers of buckram, before finishing with leathercloth.¹⁴

So in the first half of the 1920s, fabric covering was adapted from aeroplane technology to use in automobiles. A few key inventors followed different approaches to using fabric in pursuit of lightweight vehicles, and quiet, rattle-free running. Questions remained about how long-lasting these construction methods would be, although initial trials were positive.

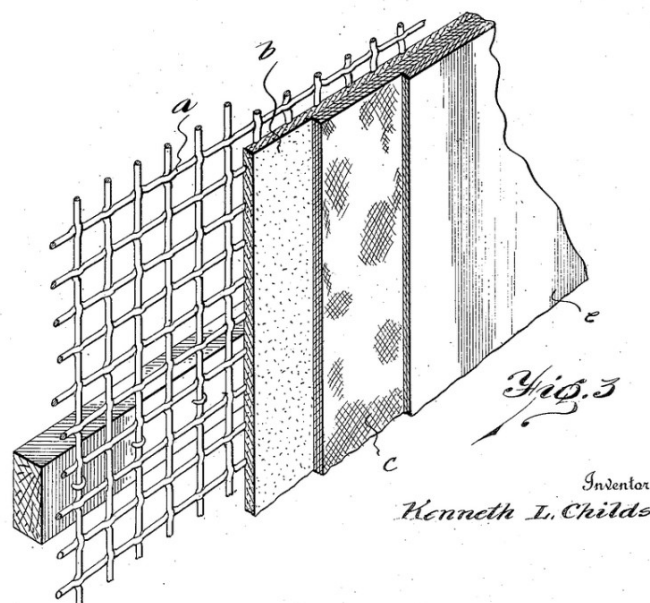


Fig.4. Child's patented composite body construction. a) wire mesh, b) cotton wadding, c) layers of buckram, and e) leathercloth. From US patent 1498234, granted 1924.

Driving the imagination

All these systems of fabric body construction employed various types of coated cotton imitating the appearance of leather; Weymann called his *simili cuir* (imitation leather) while the term artificial leather was used in the USA. Varnished leather was a traditional material for coach tops, and other hard-wearing surfaces like luggage and footwear, so offering a leather look-alike was a typical first stage in marketing a new material. The motivation for seeking an alternative to leather was the quantity of material needed to cover a closed car. Oldsmobile estimated that 176,965 calf skins would have been needed if the company had not used leathercloth in the years prior to 1925.¹⁵

Leathercloth evolved from the earlier oilcloths, and like these, initially involved spreading linseed oil and pigment mixed with fillers and driers onto a cloth substrate. An advance on oilcloth came with the successful development of nitrocellulose-based coatings starting around 1890. These coatings were made from a paste, called a *dope*, of nitrocellulose, sulphated vegetable oil, pigment and solvents. Varying the proportion of oil and nitrocellulose controlled the degree of flexibility and

¹³ US patent 1641319A, 30 April 1923: Automobile body construction.

¹⁴ US patent 1498234A, 17 June 1924: Automobile body construction.

¹⁵ "Oldsmobile uses Fabrikoid" *Washington Post*, 25 Jan 1925, p. AU3, col. B.

strength in the finished coating. By applying the coating to the cotton fabric in layers, from most flexible to hardest, a durable but pliant fabric was formed capable of being embossed with a leather-like grain.¹⁶ A number of firms produced leathercloth under different brand names that were used initially for upholstery, bookbinding, cases and carriage trimmings, but it took many years before it was applied to car bodies.¹⁷



Fig.5. Nitrocellulose-coated ledger bindings of the 1920s-1930s give an idea of the appearance of automobile leathercloth. The thinner bookcloth chipped more easily (centre example). Embossing did not have to take the form of leather grain (right example). A. Brunnschweiler & Co. archive.

John Aspinall (1859-1949), a pioneer in artificial leathers, organised the Fabrikoid Co. in 1902, and was its president until the company was sold to E. I. du Pont de Nemours & Co. in 1910. In 1914, Du Pont was successful in gaining a large commission from the Ford Motor Co. which planned to finish the interiors of its entire annual production with leathercloth. 'Fabrikoid,' in long rolls of uniform width and quality, made standardisation and quantity production of upholstery components feasible, whereas leather required individual craft cutting to cope with the irregularities of natural hides.¹⁸ One Du Pont executive, Irénée du Pont, experimented with a 'Fabrikoid' covered metal-panelled car as early as 1921, reporting good wear after 15,000 miles, but seemed to be less happy with the "clothly appearance", proposing a deeply-embossed paper base instead.¹⁹

'Meritas' was the brand name of a leathercloth made by the Standard Textile Products Co. The enterprising Kenneth L. Childs, mentioned above for his car body construction method, joined the firm in 1918. In 1922, he conceived of using leathercloth to cover an entire automobile, an attractive prospect for the firm because it would increase sales many-fold. After a year of development, a prototype vehicle was shown at the New York Automobile Show in January 1923, and received extensive editorial coverage. Pictures and a detailed account of construction were published in the January issue of *The Automotive Manufacturer* that year.

The Atlas Powder Co. was formed from the break-up of the du Pont de Nemours monopoly. It began diversifying in 1917 with the acquisition of Richards & Co. and its sales subsidiaries, Zapon Leather

¹⁶ Worden, Edward Chauncey (1911) *Nitrocellulose Industry: A compendium of the history, chemistry, manufacture, commercial application and analysis of nitrates, acetates and xanthates of cellulose as applied to the peaceful arts...*, Vol. 1. New York: D. Van Nostrand Co., pp. 367-70.

¹⁷ Concurrently, processes for splitting hides into three layers, and coating the splits with embossed nitrocellulose dope to resemble full-grain leather were developed. However, these products were sold as leather.

¹⁸ Meikle, Jeffrey L. (1995) "Presenting new material: From imitation to innovation with Fabrikoid" *Journal of the Decorative Arts Society 1850 to the present*, 19 (1995), 8-15, p. 12.

¹⁹ Ibid., Meikle (1995), p. 13.

Cloth Company and Celluloid Zapon Company, manufacturers of lacquers and artificial leather.²⁰ The Atlas Powder Co. produced the Zapon brand of leathercloth. "Grained mouse-coloured Zapon" was chosen for the body covering of a French open sporting car with "no painted parts other than the chassis" that featured in *Autocar* early in 1925.²¹ This maker, like other users of the Weymann body, preferred Zapon to other brands.

These leathercloths slashed "the time needed to finish a body by eliminating the time-consuming sanding, rubbing and varnishing process, reducing the construction time for a car body by fifty percent or more".²² The *Automotive Manufacturer* article cited above stated that the exterior could be fabric-covered in one day, a gain of five to eleven days over the requirements of metal or wood panelled construction, according to the quality of work and materials.²³ The consumer also profited from time-saving on car maintenance. W.F. Bradley wrote to the editor of *Autocar*: "After experience of the Weymann body extending over two years and rather more than twenty thousand miles, all of it over rough-surfaced French roads, [...] Any normal body would have been in real need of repainting [...] the whole of the fabric leather on the Weymann body is in perfect condition. It is estimated that fifteen minutes a day are spent washing the car..."²⁴ A journalist for the magazine concurred: "the Weymann body has won our affection, for, though it may lack the exterior finish of the best coachwork, it is not easily damaged by scratches or neglect of regular washing, and can be kept more than presentable with a minimum of trouble."²⁵

In the Autumn of 1924, further aesthetic possibilities for fabric-covered cars were brought to the attention of the public. This was a new method of finishing solid panelled cars by stretching fabric over them before further finishing treatment. Described by a motoring journalist as an alternative to painting and varnishing:

It may look strange at first, but should give a handsome finish yet one that will withstand far rougher usage than any varnish would. It will not be any costlier than a good painting, and fabric can be used of any chosen pattern or colour. It is stated to be easy to patch or repair any portion of the fabric that may be damaged, while it may be certain that this material will not suffer from blistering or cracking as paint does in use. [...] It is known as the 'Fabricol' system, and any shade or pattern of fabric may be used.²⁶

'Fabricol' was the invention of Leopold Ward (born George Leopold Holzapfel in 1888). Ward received his BSc from the University of London in 1909, and became a self-employed consultant engineer. From 1912, he contributed to the design of the Carden cyclecar, but his personal interest at this time was in exploring sprayed varnishes. He changed his name in July 1915 in connection with enlistment in the army.²⁷ After the war, he formed an engineering company, Leopold Ward Ltd., and in 1923, he applied to patent the 'Fabricol' process, summarised in the application: "The body panels

²⁰ University of Pennsylvania, Hagley Museum & Library: archival description of the Atlas Powder Co. records.

²¹ "A French fabric coupe" *Autocar*, 13 Feb 1925, pp. 257-58.

²² Theobald, Mark (2013) "Fabric Body Corporation, 1923-1929, Detroit, Michigan" for Coachbuilt.com website.

²³ Ibid., Theobald (2013) "Fabric Body Corp.", n.p.

²⁴ Bradley, W. F. "Flexible saloon durability" *Autocar*, LIV, 15 May 1925, p. 883.

²⁵ "A summer's record", *Autocar*, LIII, 26 Sep 1924, p.561

²⁶ "Progress in the Motor World: New Bodywork Features" by Headlight. *Dundee Courier*, 3 Sep 1924, p.7.

²⁷ *London Gazette*, 16 July 1915, p. 7005. See also: National Archives. WO339/65673. Ward was his mother's maiden name.

of road vehicles are treated by securing thereto by adhesive a textile fabric, plain or decorative, which is afterwards coated with layers of celluloid or other transparent varnish to fill the pores and subsequently with layers of oil varnish. The varnish may contain castor oil to give the required flexibility.”²⁸ Stunning visual effects were possible:

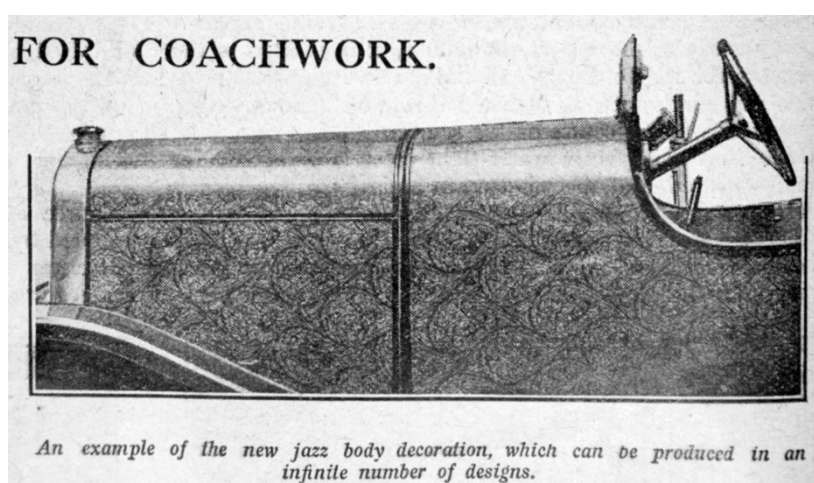
At the recent Scottish Motor Show in Glasgow, organised by the Scottish Motor Trades Association, a Fabricol saloon, shown by Windovers Ltd.,²⁹ the famous New Bond Street firm, was a triumph of British coach building. The principle ingredient of the body work was crepe de chine. It gave an astonishingly beautiful finish; the car changed its hue like a chameleon according to the light in which it was viewed. In certain lights a beautiful rainbow effect was produced.³⁰

For Ward’s first experiment, a printed cotton from the avant-garde textile producer William Foxton was chosen; this was a cretonne probably designed by Minnie McLeish. Foxton was evidently pleased, and presented the result with a full-page advertisement in the trade journal, *The Cabinet Maker* (Fig. 6).³¹

IMAGE NOT AVAILABLE FOR THIS VERSION

Fig. 6. ‘Fabricol’ featured in a Foxton advertisement. *Cabinet Maker*, 27 September 1924.

Autocar highlighted Ward’s achievement in an article entitled “Jazz Patterns for Coachwork” illustrated by a sports car in a *Paisley* print, enthusiastically proclaiming: “Individuality may, indeed, run riot!” (Fig. 7.). The Union Motor Car Co. of Battersea was cited as a firm that had already produced cars using the new technique.³² It is likely that this firm, whose managing director was Hugh Fortescue Basset (1881-1931), had undertaken the vehicles pictured here.



²⁸ UK Patent Provisional Specification: 230,191, Ward, G. L., Dec. 10, 1923. Improvements in or relating to automobile and other vehicle bodies.

²⁹ Windovers, 104 New Bond Street, London, Rolls Royce and Daimler retailers. The company advertised their exhibition of seven cars at Stand No. 15 of the Scottish Motor Show.

³⁰ “Big New Industry? Great Opportunity in Prospect for Yarmouth” *Yarmouth Independent*, 21 Feb 1925, p7.

³¹ “Foxton Fabrics”, *Cabinet Maker*, 27 Sep 1924, p.725.

³² “Jazz patterns for coachwork” *Autocar*, LIII, 29 Aug 1924, p. 368.

Fig. 7. "The elaborate riot of colour does not appear out of place." *Autocar*, 29 August 1924

Ward had obtained provisional protection for the invention at the end of 1923, and was proposing to license the treatment to manufacturers, while providing his engineering supervision. In mid-1924, with his own engineering firm failing,³³ he sold rights in the process to a new company: A.S. Ward Ltd. of Great Yarmouth. This was founded by the inventor Alfred Samuel Ward, with the aviation engineer and popular science writer Archibald Montgomery Low as technical advisor.³⁴ Regrettably, their creative abilities were not matched by business acumen, and this company had already run into trouble in its second year. Ward and Low resigned as directors in March 1926, and receivers were called in. Meanwhile, Leopold Ward's engineering company had failed the previous year, and he went to the USA to seek his fortune, and perhaps also to evade divorce proceedings.³⁵ So no more was heard of jazz designs for fabric coverings, and instead, the sober leather imitations were to continue unchallenged.

Riding the peak

By 1927, the saloon had overtaken the open tourer, with the comfort of a closed-in car having become within reach of the non-affluent purchaser. Motor engineer Percy Bradley noted two factors apart from economy that favoured the transition to the saloon: the windscreen wiper and the fabric body.

Obviously, the cosiness of a closed-in car would immediately disappear if the driver had to open the windscreen whenever it rained or snowed. The [other] reason is that the coachbuilders took off their coats and puzzled their brains as to how the saloon body was to be robbed of much of its weight. They have succeeded in their task, with the result that we now have Weymann, Gordon England, and other patented bodies which, in many cases, actually weigh less than the ordinary open four-seater...³⁶

The progress of fabric bodies was summed up in a review of the annual car show at Olympia:

Two years ago the fabric body was a novelty about which considerable difference of opinion as regards its ultimate prospects was to be found. Last year most progressive manufacturers either displayed at Olympia or were prepared to offer to the public a fabric-covered saloon car. This year there appears to be only one British manufacturer of note who has not a fabric car in his standard range, and the type is almost equally popular among Continental makers, although buyers of an American chassis must in the majority of cases, place a special order if they need a fabric body.³⁷

³³ National Archives BT31/26920/178341: Leopold Ward Ltd, Dec 1921-Mar 1925.

³⁴ National Archives BT31/28572/198766: A.S. Ward Ltd., Jun 1924-Apr 1930. See also: "Romance of Safety: Yarmouth Headquarters of a Unique World-Wide Firm. How it Will Function" *Yarmouth Independent*, 21 June 1924, 7.

³⁵ National Archives J77/2310/2353. Adeline Maud Charlton Ward petitioned for divorce in July 1925, and the case was heard in 1926. The divorce was granted in Ward's absence. In 1927, Ward reverted to his original surname of Holzapfel.

³⁶ Bradley, A. Percy "'Motoring in Spring' by Mr. A. Percy Bradley", *The Sphere*, 26 Mar 1927, p. 47.

³⁷ "The Olympia Show", *Country Life*, 62, Iss.1602, 1 Oct 1927, p. lii.

Manufacturers began to offer the consumer a choice of fabric or paint, with the fabric choice representing a savings in cost, proportionately more on less powerful vehicles. Minerva Motors' 1927 offering may typify the situation for higher-end models (Table 1.).³⁸ There were also substantial savings in maintenance, the lighter weight giving greater economy in fuel and running costs.

Table.1. Minerva Motors, London. Prices from an advertisement in *Country Life*, 5 Mar 1927.

	12-14 HP 6-cyl	16 HP 4-cyl	20 HP 6-cyl	30 HP 6-cyl
Fabric-covered saloon	£495	£635	£1050	£1200
Four-door coach-built saloon	£560	£660	£1100	£1250

One of the unexpected advantages of the fabric finish that was a strong selling point was its easy-care qualities. Traditional paintwork cracked and was easily scratched; it had to be rinsed of mud after each outing, while cleaning and rubbing down was a job of some hours. The British licensees of the Weymann principle advertised that the "Car can be put away wet and muddy without risk of damage."³⁹ With the introduction of Du Pont's 'Duco' cellulose lacquer by the automotive industry in 1924, nitrocellulose paints began to offer some of the same advantages as fabric. Re-cellulosing a panel repair took no more time than recovering with fabric, both much quicker than traditional enamel and varnish. With the development of high-pressure washing at garages, car washing times were reduced dramatically, but pressure washing was only suited to a cellulose or fabric covering, and could harm varnished bodywork: "They remove the mud with ease and dispatch, but the varnish underneath undoubtedly suffers."⁴⁰ Coachbuilt finishes became increasingly a mark of luxury, while cellulose grew as a symbol of modernity.

By late summer 1927, the motoring correspondent for the *Aberdeen Press and Journal* relayed the prediction "that almost every factory is to include in its 1928 programme at least one fabric saloon as a standardised model."⁴¹ However, much attention was drawn in the 1928 car shows by smooth fabric covered bodies imitating a coachbuilt finish. A Bentley on Gurney Nutting's stand at Olympia could "dissipate the objection to the leathery or cloth appearance which was regarded as inseparable from fabric bodies of the past."⁴² And "even feeling with the hand [was] necessary to convince most people that the double-six Daimler chassis on the Weymann stand was not carrying a highly-finished metal-panelled coach-built body."⁴³ The new fabric able to imitate polished metal was a French product known as "tôle souple".⁴⁴ But it was not to be long before admiring the look of metal became a desire for metal itself. The 1929 Paris Motor Show brought a shock; the visitor:

could have searched from end to end of the great central hall of the Grand Palais, trudged through miles of winding galleries, but he would only have found a handful of fabric-covered bodies. This is all the more surprising as France may be said to have invented the fabric-covered body. Last year and the year before

³⁸ Advertisement: Minerva Motors Ltd., London. *Country Life*, 5 Mar 1927, p. lvi.

³⁹ Advertisement. "Seven advantages of the Weymann Principle", *The Tatler*, 10 Oct 1928, p. 101.

⁴⁰ "The Care of Bodywork" *Country Life*, 67, Iss.1729, 8 Mar 1930, p. xxxviii.

⁴¹ "'All-Weather Cars. What the Motorist Does Not Want' By Our Motoring Correspondent", *Aberdeen Press and Journal*, 18 Aug 1927, p. 4.

⁴² "The Automobile World: The Show and The Industry" *Country Life*, 64, 1928, Iss.1657, p. xlv.

⁴³ "Modern Coachwork" *Country Life*, 64, Iss.1664, 8 Dec 1928, p. cxviii.

⁴⁴ "Fabric Bodies with 'Coach-Built' Finish" *Country Life*, 65, Iss.1674, 16 Feb 1929, p. lxii.

there was hardly a car in the Salon which had not got a fabric body; but now fashion has decreed that bodies with metal-panelled sides shall become the rage, and the former favourite has disappeared as if by magic.⁴⁵

It was argued that car fashions came from America not Paris, and the scale of fabric body building in Britain was cited: "There are no fewer than seventy-five licensees making Weymann bodies over here at this time, and there are numerous other fabric-covered bodies being made."⁴⁶ But Weymann was one of the promoters of the new metal-panelled body, producing "bodywork which is only flexible at the sides round the doors, which, they state, is sufficient, and they are using rigid panels and special locks to allow for this movement."⁴⁷ Weymann's French factory soon closed in 1930, although his British plant survived as Metro Cammell Weymann turning to the manufacture of bus bodies, where lightness was still at a premium. By 1932, motoring writers were already looking back nostalgically on the days of the fabric body:

Motor cars, like the majority of other chattels possessed by human beings, are powerfully swayed by the dictates of fashion [...] There was, for instance, that extraordinary boom in fabric bodywork some years ago. No car was considered a modern vehicle unless it had a fabric covered body...⁴⁸

Back to black

During its brief five-year reign, the fabric-covered car body quickly gained ground for its quiet running properties and ease of care. From the start, there was less satisfaction with its matte clothiness, the traditional coachbuilt varnished finish providing the standard of excellence by which other vehicles were judged. While fabric was able to imitate metal in its form of "tôle souple", it still remained a substitute product to be admired for its artifice. Leopold Ward's 'Fabricol' presented cloth for its own sake and on its own design terms, and could have grown in application given greater capital support and experienced management. Iridescent silk might have ousted glossy black from its confident dominance at the pinnacle of luxury. However, another fabric drawback would then have come to the fore. This was the squareness of the car body needed in order to stretch the fabric evenly without seams. This point was raised by commentators even as fabric bodies approached their zenith:

The trouble in popularising the fabric saloon [...] has been a certain unlovely squareness, essential to the method of manufacture which is employed, but not pleasing to the eye of the British motorist, who has a certain preconceived idea of what a car should look like. One of his canons of beauty in relation to a car body is "curves" in the sides, back, and top.⁴⁹

Like the gentleman's shoe spit-polished to a 'parade' finish, the car exterior soon had to present a masculine image of unblemished smoothness and cleanliness, and fabric was to become the province of the car interior.

⁴⁵ "Paris Motor Show" *Country Life*, 66, Iss.1708, 12 Oct 1929, p. xlv.

⁴⁶ "Olympia, 1929: Striking Designs and Outstanding New Models" *Country Life*, 66, Iss.1709, 19 Oct 1929, xcvi.

⁴⁷ "Paris Motor Show" *Country Life*, 66, Iss.1708, 12 Oct 1929, p. xlv.

⁴⁸ "'The Modern Car: Will Fabric Bodies Come Back? Pendulum is Swinging Again" by Our Motoring Correspondent' *Aberdeen Press and Journal*, 11 Aug 1932, p. 5.

⁴⁹ "Motor Matters. Problem of the Best Way to Build Saloon Body." *Birmingham Daily Gazette*, 24 Aug 1927, p.7.

